

Student: \_\_\_\_\_  
Date: \_\_\_\_\_

Instructor: Andreas Lazari  
Course: Math2620 F - Fall 2018

Assignment: Chapter 3.1-Homework

1. Find the population mean or sample mean as indicated.

$$\bar{x} = \frac{15 + 13 + 4 + 5 + 18}{5} = 11 \text{ or use TI 83/84}$$

Sample: 15, 13, 4, 5, 18

Compute the sample mean for this data set. Select the correct choice below and fill in the answer box to complete your choice.

- A.  $\bar{x} = 11$   
 B.  $\mu =$  \_\_\_\_\_

2. Find the population mean or sample mean as indicated.

Sample: 21, 16, 1, 6, 6

Select the correct choice below and fill in the answer box to complete your choice.

- A.  $\mu =$  \_\_\_\_\_  
 B.  $\bar{x} = 10$

3. Find the population mean or sample mean as indicated.

Population: 5, 9, 11, 13, 7

Compute the population mean for this data set. Select the correct choice below and fill in the answer box to complete your choice.

- A.  $\bar{x} =$  \_\_\_\_\_  
 B.  $\mu = 9$

4. Find the population mean or sample mean as indicated.

Population: 6, 4, 16, 18, 21

Compute the population mean for this data set. Select the correct choice below and fill in the answer box to complete your choice.

- A.  $\mu = 13$   
 B.  $\bar{x} =$  \_\_\_\_\_

5. For a large sporting event the broadcasters sold 67 ad slots for a total revenue of \$152 million. What was the mean price per ad slot?

The mean price per ad slot was \$ 2.3 million.  
(Round to one decimal place as needed.)

$$\frac{152}{67} = 2.2686567 \approx 2.3$$

6. An insurance company crashed four cars of the same model at 5 miles per hour. The costs of repair for each of the four crashes were \$405, \$410, \$475, and \$223. Compute the mean, median, and mode cost of repair.

Compute the mean cost of repair. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

use TI83/84

- A. The mean cost of repair is \$ 378.25. (Round to the nearest cent as needed.)
- B. The mean does not exist.

Compute the median cost of repair. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The median cost of repair is \$ 407.5. (Round to the nearest cent as needed.)
- B. The median does not exist.

Compute the mode cost of repair. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The mode cost of repair is \$ \_\_\_\_\_ . (Round to the nearest cent as needed.)
- B. The mode does not exist.

7. A concrete mix is designed to withstand 3000 pounds per square inch (psi) of pressure. The following data represent the strength of nine randomly selected casts (in psi).

3950, 4080, 3200, 3100, 2940, 3840, 4080, 4030, 3450

Compute the mean, median and mode strength of the concrete (in psi).

Compute the mean strength of the concrete. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

use TI83/84.

- A. The mean strength of the concrete is 3630 psi of pressure.  
(Round to the nearest tenth as needed.)
- B. The mean does not exist.

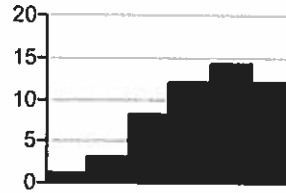
Compute the median strength of the concrete. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The median strength of the concrete is 3840 psi of pressure.  
(Round to the nearest tenth as needed.)
- B. The median does not exist.

Compute the mode strength of the concrete. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The mode of the strengths of the concrete is 4080 psi of pressure.  
(Round to the nearest tenth as needed.)
- B. The mode does not exist.

8. For the histogram on the right determine whether the mean is greater than, less than, or approximately equal to the median. Justify your answer.

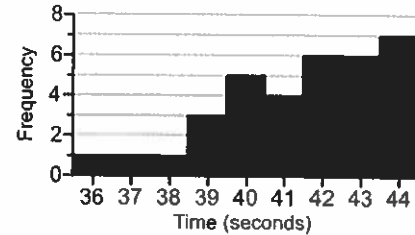


Skewed left  
 $\bar{x} < M$

Which of the following is correct?

- A.  $\bar{x} > M$  because the histogram is skewed left.  
 B.  $\bar{x} < M$  because the histogram is symmetric.  
 C.  $\bar{x} = M$  because the histogram is skewed right.  
 D.  $\bar{x} < M$  because the histogram is skewed left.  
 E.  $\bar{x} = M$  because the histogram is symmetric.  
 F.  $\bar{x} > M$  because the histogram is skewed right.

9. The histogram on the right represents the connection time in seconds to an internet provider. Determine which measure of central tendency better describes the "center" of the distribution.



Skewed left.

What measure of central tendency best describes the "center" of the distribution?

- median  
 mean  
 mode

If the distribution is skewed left or right, it means we have outliers.

If we have outliers in the data set the median is a better measure of central tendency.

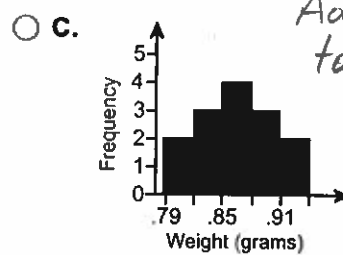
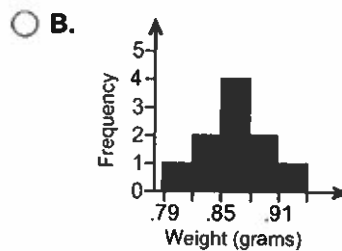
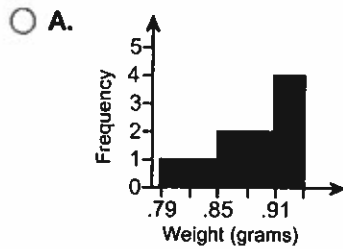
10. The following data represent the weights (in grams) of a simple random sample of a candy.

0.89 0.87 0.83 0.93 0.90 0.86 0.87 0.86 0.81 0.84

Determine the shape of the distribution of weights of the candies by drawing a frequency histogram and computing the mean and the median. Which measure of central tendency best describes the weight of the candy?

Choose the correct frequency histogram below.

*Do a histogram → use TI83/84*



*Adjust the window*

*to: Xmin = 0.79  
Xmax = 0.94  
Xscl = 0.03  
Ymin = -1  
Ymax = 4  
Yscl = 1  
Xres = 1*

Is the histogram for the data set skewed right, skewed left, or symmetric?

- symmetric  
 skewed left  
 skewed right

The mean weight of the candies is 0.866 grams.  
 (Type an integer or decimal rounded to the nearest thousandth as needed.)

*use TI83/84*

The median weight of the candies is 0.865 grams.  
 (Type an integer or decimal rounded to the nearest thousandth as needed.)

Which measure of central tendency best describes the weight of the candy?

- median  
 mode  
 mean

*If the distribution is a bell shape symmetric the mean is better measure of central tendency.*

11. For a distribution that is symmetric, which of the following is true?

(This is a reading assessment question. Be certain of your answer because you only get one attempt on this question.)

Choose the correct answer below.

- mean < median  
 mean = median  
 mean > median

12. For a distribution that is skewed right, which of the following is true?

(This is a reading assessment question. Be certain of your answer because you only get one attempt on this question.)

Choose the correct answer below.

- mean < median  
 mean = median  
 mean > median

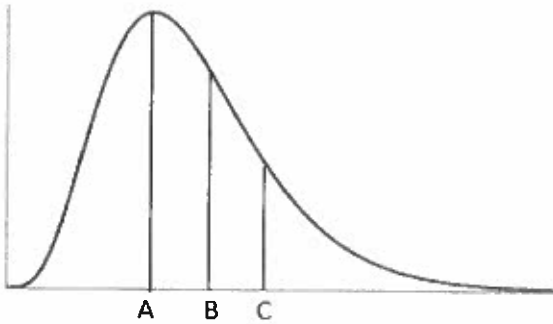
13. For a distribution that is skewed left, which of the following is true?

(This is a reading assessment question. Be certain of your answer because you only get one attempt on this question.)

Choose the correct answer below.

- mean < median
- mean = median
- mean > median

14. For the distribution shown, which letter represents the mode?

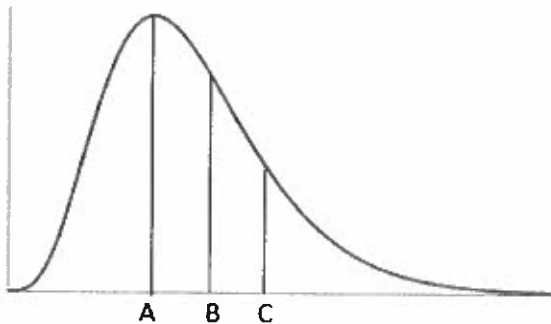


(This is a reading assessment question. Be certain of your answer because you only get one attempt on this question.)

The letter (1) A represents the mode.

- (1)  B
- A
- C

15. For the distribution shown, which letter represents the median?

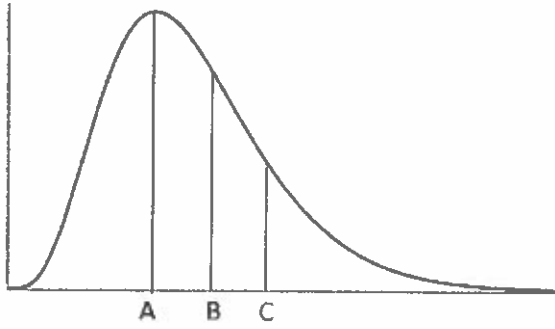


(This is a reading assessment question. Be certain of your answer because you only get one attempt on this question.)

The letter (1) B represents the median.

- (1)  B
- C
- A

16. For the distribution shown, which letter represents the mean?



(This is a reading assessment question. Be certain of your answer because you only get one attempt on this question.)

The letter (1) C represents the mean.

- (1)  C  
 B  
 A

1. A.  $\bar{x} =$  11

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2. B.  $\bar{x} =$  10

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3. B.  $\mu =$  9

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4. A.  $\mu =$  13

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5. 2.3

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6. A. The mean cost of repair is \$ 378.25 . (Round to the nearest cent as needed.)

A. The median cost of repair is \$ 407.50 . (Round to the nearest cent as needed.)

B. The mode does not exist.

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7. A. The mean strength of the concrete is 3630 psi of pressure.(Round to the nearest tenth as needed.)

A. The median strength of the concrete is 3840 psi of pressure.(Round to the nearest tenth as needed.)

A. The mode of the strengths of the concrete is 4080 psi of pressure.(Round to the nearest tenth as needed.)

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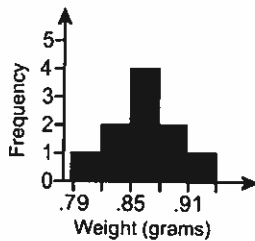
8. D.  $\bar{x} < M$  because the histogram is skewed left.

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9. median

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10.



B.

symmetric

0.866

0.865

mean

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11. mean = median

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12. mean > median

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13. mean < median

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14. (1) A

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15. (1) B

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16. (1) C

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